

WHAT IS CLAIMED IS:

1. A method for manufacturing a glow plug, the glow plug comprising a cylindrical metal shell having an internal bore formed in an axial direction, and a heater tube adapted to be
5 press-fitted from its rear end side into the internal bore and having a leading end closed,

the method comprising the steps of:

place a stopper abutting on the leading end; and
applying an axial load between the stopper and the metal
10 shell so as to start a clamping of a side of the heater tube through a support member and to start a press-fit of the heater tube in the metal shell.

2. The method according to claim 1, the applying step
15 comprises:

applying a first axial load between the stopper and the metal shell so as to start the clamping of a side of the heater tube through a support member; and
applying a second axial load higher than the first axial
20 load so as to start the press-fit of the heater tube into the metal shell.

3. The method according to claim 1, wherein the support member is caused to apply a clamping force to clamp the heater
25 tube, when the axial load is applied, and to relax the clamping

force to the heater tube when the axial load is relaxed.

4. The method according to claim 1, wherein the heater tube comprises a press-fitted portion formed on the rear end side and adapted to be press-fitted into the internal bore, and a diametrically reduced portion having a smaller diameter than that of the press-fitted portion and adapted to be at least partially clamped by the support member.

5. The method according to claim 1, wherein a contact portion of the stopper, which is to abut on the leading end, is shaped according to a shape of the leading end.

6. An apparatus for manufacturing a glow plug, the apparatus comprising:

a cylindrical metal shell having an internal bore formed in an axial direction;

a heater tube adapted to be press-fitted from its rear end side into the internal bore and having a leading end closed;

a stopper for starting the press-fit, when an axial load is thereto, while abutting on the leading end; and

a support member having a face for clamping a side face of the heater tube, wherein the support member starts the clamping before the press-fit starts, when an axial load is applied to the stopper.

7. The apparatus according to claim 6, wherein the axial load necessary to start the press-fit is higher than the axial load necessary to start the clamping.

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8. The apparatus according to claim 6, further comprising:

a taper collet for clamping the support member radially inward when the axial load is applied; and

10 an engaging portion surrounding the stopper for engaging, when the axial load is applied, with the taper collet so as to apply the radially inward clamping force to the taper collet.

9. The apparatus according to claim 8, further comprising a spring adapted to be compressed, when the engaging portion and the taper collet are brought into engagement by applying the axial load, for releasing the engagement when the axial load is relaxed.

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